## OPTICAL PHENOMENA.

Solar Halos were observed on the following dates in the different districts: New England, 1st, 21st, 24th, 25th, and 29th; Middle Atlantic States, 1st, 2nd, 3rd, 7th, 21st, 23rd, 25th, 28th, 29th, and 30th; Florida, 18th and 20th; Western Gulf States, 10th, 14th, 24th, 28th and 29th; Ohio valley, 7th, 9th, 12th, 13th, 15th, 19th, 27th, 28th, 29th and 30th; Michigan, 17th and 22nd; Upper Mississippi valley, 4th, 5th, 10th, 11th, 14th, 15th, 28th and 29th; Lower Missouri valley, 8th, 12th, 14th, 15th, 18th, 24th and 27th; Northwest, 3rd, 4th, 9th and 28th; Utah, 7th, 8th and 26th; California, 25th and 27th; Oregon, 1st.

Lunar Halos were observed on the following dates in the different districts: New England, 1st, 2nd, 23rd, 24th to 30th; Middle States, 1st, 2nd, 12th, 22nd, 23rd, 25th, 28th to 30th; South Atlantic States, 2nd, 3rd, 22nd to 29th; Gulf States, 2nd, 22nd, 24th, 27th to 30th; Ohio valley and Tennessee, 10th, 20th, 24th, 26th to 30th; Lower Lakes, 1st, 2nd, 12th, 25th, 27th, 28th; Upper Lakes, 11th, 24th, 28th, 29th; Upper Mississippi valley, 1st, 2nd, 5th, 15th, 23rd, 26th to 30th; Lower Missouri valley, 26th to 30th; Northwest, 7th; Utah, 22nd 25th, 26th; Nevada, 29th; California, 25th; Oregon, 28th.

## MISCELLANEOUS PHENOMENA.

Prairie and Forest Fires.—Ft. Sill, 2nd, 7th, 8th, 9th, 10th, 15th, 20th, 27th; Bismarck, 2nd, 25th; Pembina, 29th, 30th; Ft. Gibson, 7th, 8th, 9th, 17th, 23rd, 26th, 30th; Chevenne, 7th, 8th; Colorado Springs, Col., 13th, in mountains; Pike's Peak, 5th, in mountains; Santa Fé, 12th, 13th, 15th, 16th, 17th, 18th, in mountains; Salt Lake City, 16th, in mountains; Burlington, Vt., 1st, 2nd, in mountains; Hermosa, Col., 15th, 16th, 17th, 18th; Morristown, Dak., 21st; Los Angeles, Cal., 12th, 13th, 14th and 15th, in mountains, destroying large tracks of timber; Ft. Stevenson, Dak., 25th and 26th; Breckenridge, 8th; Ft. Garland, Col, 8th and 9th, on mountains; Boise City. 13th, in mountains; Creswell, Kans., 14th, 15th, 16th; Clear Creek, Neb. 7th.

Mirage.—New Haven, Conn., 12th.

Meteors.—On the 5th, a very brilliant meteor was observed in Nevada and Utah, of which the following reports are to hand: Salt Lake City, 7:10 p. m., brilliant meteor appeared a few degrees south of west, and shot across the sky in a northwesterly direction, leaving behind it a bright silvery streak 7° in length, and resembling a cloud. One striking peculiarity of this streak, was it resemblance to certain letters of the alphabet, two W's being plainly visible and followed by a succession of N's. It disappeared at 7:25 p. m., having at that time, a pinkish color, the sky, during the whole time, being perfectly clear. The meteor did not appear much larger than an ordinary star. Pioche, Nevada, 6.40 p. m., brilliant meteor, at from 35° to 40° above the western horizon. Motion, at first, from east to west, when it turned rapidly to the northwest and with a hissing noise, fell to the earth, about 40 miles from the station. It left a train, which was visible for 45 minutes; sky perfectly clear. Deep Creek, Utah, 7:30 p. m., brilliant meteor, passing from SE to SW., leaving a silver streak in its passing fully twenty minutes. It was also observed at Austin New At Chettengers at the 15th 11 p. 20 very triply a received and appears and the station of the station o served at Austin, Nev. At Chattanooga, on the 15th, 11 p. m., a very bright meteor, passing from zenith to NW. horizon, leaving in its wake a pale yellow cloud.

Sunsets -The characteristics of the sky at sunset, as indicative of fair or foul weather, for the succeeding twenty-four hours, have been observed at all Signal Corps stations. Reports from 140 stations show 4,195 observations to have been made, of which 30 were reported doubtful; of the remainder 3,575 or 85.2 per cent were followed by the expected weather.

Zodiacal Light.—New Corydon, Ind., 17th, 19th, 21st, 25th, 26th; Palermo, N. Y., 16th, 20th; Fayette-

ville, N. C., 15th; Lynchburg, Va., 5th, 15th.

Earthquakes.—At Memphis, Tenn., on the 25th, at 9.10 p. m. a very perceptible shock; duration, six seconds; direction, from NW. to SE.

Polar Bands.—New Corydon, Ind., 6th, 7th, 11th, 19th, 29th; Guttenburg, Ia., 19th; Tabor, Ia., 15th; Waterburg, N. Y., 10th, 11th; Portland, Or., 20th; Clear Creek, Neb., 18th and 19th.

Sun Spots. - The following record of observations, made by D. P. Todd, Assistant, has been forwarded by Prof. S. Newcomb, U. S. Navy, Superintendent Nautical Almanac, Washington, D. C.:

SEPT., 1879.		No. of new-		Disappeared by solar rotation.		Reappeared by solar rotation.		umber ble.		Remarks.		
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1st, 5 p. m 3rd, 3 p. m 4th, 4 p. m 6th, 3 p. m 8th, 4 p. m 8th, 4 p. m 6th, 3 p. m 6th, 4 p. m 6th, 5 p. m 6th, 5 p. m 6th, 5 p. m	0 0 0 0 0 0 0 0 1 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	000000000000000000000000000000000000000	000000000000000000000000000000000000000	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 1 0 0 0 0 0 1 0 0 0 1 1 1 1 1 1 1	3 1 1 1 0 0 0 0 3 0 0 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2	Faculæ. Faculæ. Faculæ. Faculæ. Faculæ. Faculæ. Faculæ. Faculæ.			